**AMENDMENTS TO THE CLAIMS**

The following Listing of Claims replaces previous claims and listings of claims in the application.

LISTING OF CLAIMS

1. A communications method comprising:

providing (i) a first signal having a positive entropy and (ii) a plurality of delayed versions of the first signal, each delayed version of the plurality of delayed versions comprising a plurality of available values;

encoding data comprising a symbol by representing the symbol as a plurality of delay values, wherein each of said plurality of delay values comprises an available value of the plurality of available values for each delayed version of the plurality of delayed versions; and

transmitting the encoded data across a communications channel.

2. The communications method according to claim 1, further comprising:

summing the first signal having positive entropy and the plurality of delayed versions of the first signal, the plurality of delayed versions of the first signal comprising the plurality of delay values for the symbol.

3. The communications method according to claim 1, further comprising:

decoding the encoded data by identifying each transmitted, delayed version of the plurality of delayed versions of the first signal; and

determining a transmitted delay value of the plurality of delay values for each identified delayed version.

4. The communications method according to claim 1, wherein the first signal comprises one of a chaotic signal, a noise signal, and a positive entropy. baseband signal modulated onto a positive entropy signal having a higher frequency than the baseband signal.

5. The communications method according to claim 1. wherein said decoding step comprises:

generating a second signal substantially similar to the first signal,

summing the second signal and a plurality of reference delays; and

maximizing a cross-correlation between the encoded data and the sum of the second signal and the plurality of reference delays.

6. The communications method according to claim 5, further comprising:

compensating the plurality of reference delays for degradation by the communications channel of the plurality of delayed versions of the first signal.

7. The communications method according to claim 1. wherein said decoding step comprises:

generating a weighted third signal substantially similar to the first signal.

summing the weighted third signal and a plurality of weighted reference delays; and

performing a least squares fit between the encoded data and the sum of the third signal and the plurality of weighted reference delays.

8. The communications method according to claim 7, further comprising:

compensating the plurality of weighted reference delays for degradation by the communications channel of the plurality of delayed versions of the first signal.

9. A communications apparatus comprising:

means for providing (i) a first signal having a positive entropy and (ii) a plurality of delayed versions of the first signal, each delayed version of the plurality of delayed versions comprising a plurality of available values;

means for encoding data comprising a symbol by representing the symbol as a plurality of delay values, wherein each of said plurality of delay values comprises an available value of the plurality of available values for each delayed version of the plurality of delayed versions; and

means for transmitting the encoded data across a communications channel.

10. The communications apparatus according to claim 9, further comprising:

means for summing the first signal having positive entropy and the plurality of delayed versions of the first signal, the plurality of delayed versions of the first signal comprising the plurality of delay values for the symbol.

11. The communications apparatus according to claim 9, further comprising:

means for decoding the encoded data by identifying each transmitted delayed version of the plurality of delayed versions of the first signal; and

means for determining a transmitted delay value of the plurality of delay values for each identified, delayed version.

12. The communications apparatus according to claim 9, wherein the first signal comprises one of a chaotic signal, a noise signal, and a positive entropy, baseband signal modulated onto a positive entropy signal having a higher frequency than the baseband signal.

13. The communications apparatus according to claim 9, wherein said decoding means comprises:

means for generating a second signal substantially similar to the first signal,

means for summing the second signal and a plurality of reference delays; and

means for maximizing a cross-correlation between the encoded data and the sum of the second signal and the plurality of reference delays.

14. The communications apparatus according to claim 13, further comprising:

means for compensating the plurality of reference delays for degradation by the communications channel of the plurality of delayed versions of the first signal.

15. The communications apparatus according to claim 9, wherein said decoding means comprises:

means for generating a weighted third signal substantially similar to the first signal.

means for summing the weighted third signal and a plurality of weighted reference delays; and

means for performing a least squares fit between the encoded data and the sum of the third signal and the plurality of weighted reference delays.

16. The communications apparatus according to claim 15, further comprising:

means for compensating the plurality of weighted reference delays for degradation by the communications channel of the plurality of delayed versions of the first signal.

17. A communications device comprising:

a symbol encoder for receiving data comprising a symbol and for receiving a first signal having a positive entropy, the symbol encoder adding to the first signal a plurality of delayed versions of the first signal, each delayed version of the plurality of delayed versions comprising a plurality of available values, the symbol being represented by a set of delay values, a delay value of the set of delay values comprising an available value of the plurality of available values for the each delayed version of the plurality of delayed versions; and

a transmitter for receiving the encoded data from the symbol encoder and for transmitting the encoded data.

18. The communications device according to claim 17, wherein the first signal having positive entropy comprises one of a chaotic signal, noise signal, and a positive entropy, baseband signal modulated onto a positive entropy signal having a higher frequency than the baseband signal.

19. The communications device according to claim 18, wherein the chaotic signal comprises one of a Lorenz system-generated chaotic signal and a Rossler system-generated chaotic signal.

20. A communications device for receiving encoded data, the communications device comprising:

a receiver for receiving a first signal having positive entropy added to a plurality of delayed versions of the first signal, each delayed version of the plurality of delayed versions comprising a plurality of available values, wherein encoded data comprises a symbol, the symbol being represented by a plurality of delay values, a delay value of the plurality of delay values comprising an available value of the plurality of available values for the each delayed version of the plurality of delayed versions; and

a symbol decoder for receiving the encoded data from said receiver, the symbol decoder

for summing a second signal, substantially similar to the first signal, and a plurality of reference delays, and

for maximizing a cross-correlation between the encoded data and the sum of the second signal and the plurality of reference delays.

21. The communications device according to claim 20, wherein the first signal having positive entropy comprises one of a chaotic signal, noise signal, and a positive entropy, baseband signal modulated onto a positive entropy signal having a higher frequency than the baseband signal.

22. The communications device according to claim 21, wherein the chaotic signal comprises one of a Lorenz system-generated chaotic signal and a Rossler system-generated chaotic signal.

23. The communications device according to claim 20, further comprising an equalizer communicating with said receiver and with said symbol decoder.

24. A communications device for receiving encoded data, the communications device comprising:

a receiver for receiving a first signal having positive entropy added to a plurality of delayed versions of the first signal, each delayed version of the plurality of delayed versions comprising a plurality of available values, wherein encoded data comprises a symbol, the symbol being represented by a plurality of delay values, a delay value of the plurality of delay values comprising an available value of the plurality of available values for the each delayed version of the plurality of delayed versions; and

a symbol decoder for receiving the encoded data from said receiver, the symbol decoder

for summing a third signal, being a weighted version of the first signal, and a plurality of weighted reference delays, and

for performing a least squares fit between the encoded data and the sum of the third signal and the plurality of weighted reference delays.

25. The communications device according to claim 24, wherein the first signal having positive entropy comprises one of a chaotic signal, noise signal, and a positive entropy, baseband signal modulated onto a positive entropy signal having a higher frequency than the baseband signal.

26. The communications device according to claim 25, wherein the chaotic signal comprises one of a Lorenz system-generated chaotic signal and a Rossler system-generated chaotic signal.

27. The communications device according to claim 24, further comprising an equalizer communicating with said receiver and with said symbol decoder.